IN THE SPECIFICATION

The paragraph beginning at page 2, line 6 has been amended as follows:

Changes in the X-ray voltage affect not only the energy spectrum, but also the radiation dose, because with decreasing X-ray voltage, the tube current, i.e., the electron flow inside the X-ray tube, decreases. Thus, in order to compensate for the reduction of the radiation dose with a decrease in X-ray voltage, ~~we must increase~~ the X-ray tube current must be increased. The increase of the X-ray tube current, however, is restricted by the so-called blooming effect, by which – due to a lower X-ray voltage and high X-ray currents – the X-ray focal spot on the anode of the X-ray tube enlarges. The blooming effect negatively affects the properties of the X-rays that are produced.

Immediately preceding the paragraph beginning at page 3, line 24, insert the following paragraph::

Consistent with conventionally-used terminology, the subject matter described herein is referred to as a "monochromator" even though it does not limit the X-ray radiation to a monochromatic (single energy) beam, but instead spectrally restricts the X-radiation.

The paragraph beginning at page 9, line 8 has been amended as follows:

Selection of the angle of incidence Θ of the X-ray path 9 on the crystal 7, should be based on a voltage as high as possible, because the efficiency of an X-ray tube used as the X-ray source 5 increases with the square of the X-ray voltage. The utilization of Bragg reflection according to the invention makes it possible to produce X-radiation of relatively low energy levels with a simultaneous high efficiency of the X-ray source 5. In addition, the relatively high X-ray voltage reduces the blooming

effect, which causes enlargement of the focal spot. In order to be able to utilize these advantageous effects enabled by the increased X-ray voltage, the incidence angle Θ is set so that the maximum value of the energy spectrum of the ~~monochromatized~~ spectrally restricted X-radiation 11 is not greater than the 0.8-multiple of the maximum value of the energy spectrum of the X-ray 9.

The paragraph beginning at page 9, line 19 has been amended as follows:

Besides the maximum value of the energy spectrum in the reflected X-ray, Bragg reflection contains maxima of higher order as expressed by the factor k in the Bragg relation. In order to keep the influence of the refractions of higher order in the reflected X-ray small, the maximum value of the energy spectrum of the ~~monochromatized~~ spectrally restricted X-radiation 11 is set to no less than the 0.34-multiple of the maximum value of the energy spectrum of the X-ray path 9. This guarantees especially that refraction from the 3rd order on do not enter the ~~monochromatized~~ spectrally restricted X-radiation 11.